How to use: 1). Turn over a shovel full of soil (10-12" deep) and rate each indicator by marking an "X" that best represents the value for your soil health. 2). Determine soil compaction by simply pushing a probe or wire flag into undisturbed soil and noting the resistance.

Date:_____ Evaluation by Initials :_____ County:_____ Tract & Field #_____ Type of Crop/rotation_____ Tillage system_____ Soil Moisture level (check one) Good for planting ___ Too wet for planting ___ Too dry for planting ___

Indicator	Indicator Values 1	5	10	←	←	Preferred	Observations
						Preferred	
				1	5	10	
Soil Structure	Hard with no surface residue. Powder when dry, crusts easily after a hard rain. Large, hard clods, very hard to prepare seed bed. Difficult to work.	Crumbles with pressure. Some residue and organic matter. Crust only in areas such as wheel tracks. Some visible crumbly structure.	Very crumbly. No crusting, residue prevents surface hardening. Mellow, ready to plant. Crumbly, mellow or loamy and easily worked.				
Soil Compaction	Hard pan stops roots, roots grow laterally. Can not push probe or wire flag into soil. Crusting is prominent	Few roots grow through, some grow laterally. Can push probe or wire flag in soil with force; some soil crusting.	Roots grow straight down. Probe or flag enters soil easily; no crusting soil.				
Surface Soil Color	White, light gray or red.	Dark gray or light brown	Dark brown or black.				
Soil Organic Matter (residue)	Little or no surface residue. Few roots in soil. Bare ground.	Moderate surface residue, moderate roots.	Heavy surface residue. Dense roots, tunnels of decomposed roots.				
Soil Erosion	Signs of severe wind stress or gullies throughout field. Excessive soil movement by water and/or wind.	Adequate control after windy period and hard rain. Some visible soil movement by water and/or wind.	Excellent control after hard wind or hard rain. Little or no soil movement by water and/or wind.				
Biological Activity	Little or no sign of insects, worms, etc.	Some living insects, worms, etc.	Large amounts insects, worms, etc.				
Water infiltration/ Water Holding Capacity	Crops wilt quickly after water events. Excessive runoff; ponding; or very low water holding capacity.	Crops curl or wilt but come back quickly. Some runoff, some ponding or poor water holding capacity.	Crops tolerate droughty conditions. Very little runoff/ponding; Good water holding capacity.				
Crop organic matter (residue right after planting)	0-30% of soil surface is covered with crop residue	50-70% of soil surface is covered with crop residue	70% or more of soil surface is covered with crop residue				

What is soil quality and soil health?

A healthy environment begins with soil quality. When soil is at its best it can absorb and hold moisture, supports plant and animal life, and helps purify the air by storing CO_2 in the soil (carbon sequestration) which helps the environment by giving cleaner air.

How to improve Soil Health.

Any activity to the soil affects the soil quality. Especially, in the management practice we choose on our land. Conservation Tillage Practices (No-till/Strip-till and Ridge-till) along with crop rotation, pest and nutrient management, and soil testing help produce better soil health.

In addition, leaving residue (organic matter) on the soil surface each year (at least 2 to 4 tons/acre/year) helps build up the organic layer. By building up the organic layer helps to supply crops with more nutrients and holds more moisture in the soil which helps to produce a better yield.

The Soil Quality Card

The advantages of using the soil quality card helps you evaluate the changes in soil quality as affected by management practices.

The regular use of the Soil Quality Card allows you to record long-term improvements from your management practices.

Recommendations

- Evaluate soil health every 2-3 years in the same locations evaluations were made in previous years (by the same person).
- Evaluate several places in each field.
- Soil Testing every 3-5 years.
- Evaluate soil structure after rainfall or irrigation events.
- Measure soil compaction in the Spring when plants about 10" tall.
- Evaluate Soil Erosion after harvest and during high-wind periods or after heavy rain.

USDA NRCS

United States Department of Agriculture
Natural Resources Conservation Service

For more information contact your local NRCS Field Office

Colorado
Soil Quality Card

The soil quality card is a tool to assist the landowner in assessing the health of their soil before and after management practices.

Regular use will assist in understanding current soil quality conditions. For best results take several samples in the same field.

Evaluation scores do not represent absolute measures or values, but provides a guide in understanding soil health.